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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/748,398

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Barrett E. Cole

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EXAMINER

MUI, CHRISTINE T

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/748,398	Applicant(s) COLE ET AL.	
	Examiner CHRISTINE T. MUI	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 64-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-37 and 64-84 is/are allowed.
- 6) ☒ Claim(s) 1,2,7,10,22 and 26 is/are rejected.
- 7) ☒ Claim(s) 3-6, 8-9, 11-21 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see REMARKS, filed 22 April 2008, with respect to the rejection(s) of claim(s) 1, 2, 7, 8, 10, 12, 13, 15, 22 and 26 under 35 USC 102(e) and 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of H188 to Thomson et al.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 are rejected under 35 U.S.C. 102(b) as being anticipated by H188 to Thomson et al (herein referred 'Thomson').

4. Regarding claim 1, the reference Thomson discloses an apparatus for detecting medium and high atomic weight elements including a sampling mechanism for removing particles of an element to be detected from the aerosol and confining the particles to a selected geometry. The apparatus includes a sampler that is designed to remove the particles from the air and concentrate them into a geometry which is most effective for detection, this is considered to be a particle concentrator. The apparatus further includes a filter where the filtration sample of an air stream flows onto which traps and retains on its surface particulates with physical sizes larger than specified value, sample

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collection surface. Once the particulates from the sampler are deposited onto the filter paper medium, the filter medium is then indexed into the flux of an x-ray producing radioactive source, energy source. Upon the impact of the x-rays, the particles' atoms fluoresce and are then detected by means of an energy dispersive detector (see abstract, column 3, lines 5-21, column 4, lines 10-67).

5. Regarding claim 2, the reference Thomson discloses the concentrated particulates from the sampler are pumped to pass the air stream flow at a given rate through a media (e.g. filter) which traps and retains on its surface particulates. The filter media is a movable filter paper that particulates are deposited on (see column 4, lines 49-68). It is interpreted by the examiner that the movable filter paper is that is mounted is considered a substrate.

6. Regarding claim 7, the reference Thomson disclose the sampler function to remove particles from the air and concentrate them onto a geometry which is most effective for detection. Means for carrying out sampling include electrostatic, thermal, inertia, gravitational and filtration (see column 4, lines 38-42). It is interpreted by the examiner that the filtration means in the sampler is way to sort the mass sorted particles.

7. Regarding claim 10, the reference Thomson discloses the exposed tape with particulates on it are indexed into the flux of an x-ray producing radioactive source. Upon impact of the x-rays, the particles' atoms fluoresce, that is they emit x-rays, of their own with energies characteristic of the elements they contain (see column 4, lines 17-27).

8. Regarding claim 22, the reference Thomson discloses the digital circuitry of the x-ray detector is in connection with sampler which sequences the system upon counting of the electrical pulses originating from the detector and the irradiator for producing an x-ray radioactive source of a particular isotope and source (see column 5, lines 26-52, column 6, lines 14-53). It is interpreted by the examiner that the functions of the detector and energy source are controlled by the sampler and irradiator, respectively, controlling the stopping and starting of counting of electrical pulses and the type of isotope used and strength of the irradiation source.

9. Regarding claim 26, the reference Thomson discloses the sampler is used to remove particles from the air and concentrate them into a geometry. Means for carrying out sampling include electrostatic, thermal, inertial, gravitational and filtration (see column 4, lines 38-42). It is interpreted by the examiner that sampler is able to selectively choose which chemical, either one or more, by electrostatic, thermal, inertial, gravitational or filtration, using chemical properties of chemical of interest.

Allowable Subject Matter

10. Claims 3-6, 8-9, 11-21 and 23-25 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. A particle analyzer for analyzing aerosol particles on a substrate that is thermally isolated as well as coupled to a temperature modifying means is not found in the prior art. Furthermore, a particle analyzer for analyzing aerosol particles on a substrate that comprises carbon nanotubes and a particle analyzer with an energy source lens and a

detection lens and an analyzer to analyze aerosol particles with a detector that comprises a plurality of pixels that are sensitive to a single or plurality of wavelengths is not found in the prior art.

12. Claims 27-37 and 64-84 are allowed.

13. A particle analyzer with a substrate and a collection surface comprising carbon nanotubes with a temperature adjusting means such as a heater coupled to the surface where it is thermally isolated and the surface is suspended over a cavity with legs is not found in the prior art.

14. A particle analyzer for analyzing aerosol particles on a substrate that is thermally isolated as well as couple to a temperature modifying means is not found in the prior art. Furthermore, a particle analyzer for analyzing aerosol particles on a substrate that comprises carbon nanotubes and a particle analyzer with an energy source lens and a detection lens and an analyzer to analyze aerosol particles with a detector that comprises a plurality of pixels that are sensitive to a single or plurality of wavelengths is not found in the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE T. MUI whose telephone number is (571)270-3243. The examiner can normally be reached on Monday-Thursday 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CTM

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797